

BACKGROUND ON HIGH LEVEL NUCLEAR WASTE AND THE PROXIMITY PRINCIPLE

High-level nuclear waste is produced in nuclear power reactors. It is extremely radioactive and very hazardous and will continue to be **radioactive and harmful** to humans and the environment for hundreds of thousands of years. The nuclear industry in Canada has produced over 50,000 tonnes of high-level radioactive waste and expects to double that amount by continuing to operate existing reactors.

The Nuclear Waste Management Organization (NWMO) was created by **the nuclear fuel waste owners** in Canada in 2002. Ontario Power Generation (OPG) is the owner of more than 90% of high-level radioactive waste in Canada and has majority control in the NWMO. Ontario ratepayers provide more than 90% of the NWMO's funding through Ontario Power Generation payments to the NWMO. Some of that money is used to pay the Canadian Nuclear Safety Commission (CNSC) for "services" they provide the NWMO.

In 2005 the NWMO released a plan for something they called "Adaptive Phased Management" (APM). This plan includes the transportation of all of Canada's high-level radioactive waste to a single location where it will be transferred from the transportation containers, placed in a **deep geological repository (DGR)** and eventually **abandoned**. The NWMO has presented a series of concepts for its DGR but has no actual design and there is no precedent.

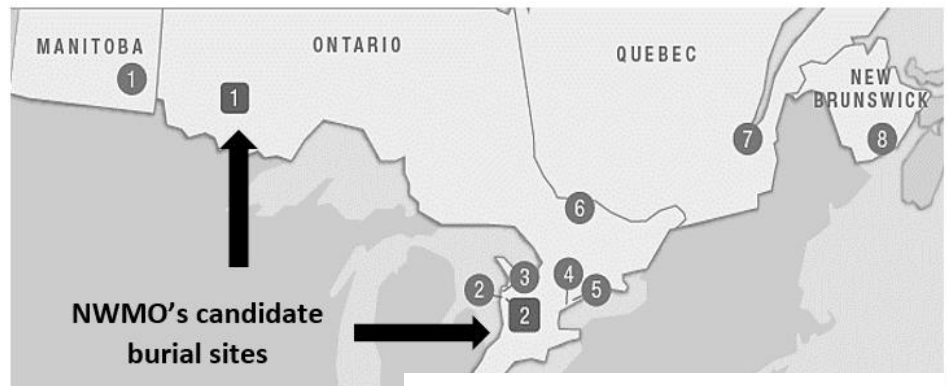
There is no approved or operating deep geological repository for nuclear fuel waste anywhere in the world, despite more than five decades of effort by the nuclear industry.

The NWMO launched a nine-step site selection process for a DGR site in 2010. Their site search has been **highly divisive** in the 22 communities the NWMO has investigated and continues to be in the areas of the two remaining sites under investigation (a site in South Bruce in Southwestern Ontario and a site between Ignace and Dryden in Northwestern Ontario). There is strong opposition to deep geological repositories in the areas under investigation, and that opposition has received significant national and international support from both citizens and scientists.

The NWMO say that they will not proceed without an "**informed and willing host**". But the NWMO recognizes only Wabigoon Lake Ojibway Nation and the Township of Ignace as the "host" communities. The candidate site is more than 40 km outside of Ignace's boundaries and the Township of Ignace has decided that the municipal council will determine if Ignace is "willing". There will be no vote or referendum, even for residents of Ignace. Those living closer to the site, downstream, or along the transportation route are not part of the NWMO's "willingness project".

The NWMO includes in their nine-step process the "option" of adding a temporary shallow repository at the DGR site. This **shallow cavern option** could be approved through a licence amendment without being subject to a full environmental assessment. It could be implemented while the site is still being investigated and before the NWMO has been approved to construct and operate the DGR.

The proposed **transportation** scheme to move nuclear fuel waste from reactor stations to a DGR includes an estimated 2-3 road shipments per day for an estimated 50 years. This will result in significant expense and **greenhouse gas emissions** and will present **risks to the environment and to the exposed public**, including drivers and bystanders exposed to gamma radiation. These impacts could be greatly increased by accidents during waste transfers or transportation.



- Current Waste Locations
1. Whiteshell Laboratories, Man.
 2. Douglas Point reactor, Ont.
 3. Bruce Nuclear Generating Station, Ont.
 4. Pickering Nuclear Generating Station, Ont.
 5. Darlington Nuclear Generating Station, Ont.
 6. Chalk River Laboratories, Ont.
 7. Gentilly Nuclear Generating Station, Que.
 8. Point Lepreau Nuclear Generating Station, N.B.

The NWMO proposes to **transfer the wastes** into transportation containers at the reactor stations and then transfer the waste again, into a “final” container at the DGR site. The **repackaging** facility at the (theoretical) DGR site is still at the concept stage but the work will be technically difficult and hazardous to workers and will involve opening the nuclear waste containers. Repackaging introduces potential impacts on human health, and the threat of **contaminating the air, ground and water** from radioactive releases during the process.

The **Proximity Principle** directs that radioactive waste should be managed as close to the point of generation as is technically feasible. The Proximity Principle has been embedded in the European Community’s Strategy for Waste Management since the 1990s and some jurisdictions, including Scotland and Wales, have a “Proximity Principle” included in their radioactive waste policy.

There is a **viable alternative to the transportation and burial of high-level radioactive wastes**. Nuclear fuel waste should be managed at the point of generation by making on-site storage more robust and adopting a program of rolling stewardship for the long-term monitoring and management of radioactive waste at or near current locations.

For more information please email nuclearfreenorth@gmail.com or telephone 1 855 225 8055 (toll-free).

Visit the following web sites:

- www.wethenuclearfreenorth.ca
- www.protectourwaterways.org
- www.knownuclearwaste.ca
- www.environmentnorth.ca
- www.northwatch.org

To learn more about nuclear waste policy in Canada visit www.nuclearwastewatch.ca